

AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) A transceiver for transmitting signals in a transmitting mode and for receiving signals in a receiving mode and comprising a single digital synthesizer driven phase locked loop, wherein said digital synthesizer driven phase locked loop, in said transmitting mode, is in a modulating state and receiving a modulation signal, with said digital synthesizer driven phase locked loop, in said receiving mode, being in an oscillating state and receiving a non-modulation signal, wherein said digital synthesizer driven phase locked loop comprises, in said modulating state, a first filtering performance, with said digital synthesizer driven phase locked loop comprising, in said oscillating state, a second filtering performance different from said first filtering performance.

2. (Canceled)

3. (Previously Presented) The transceiver according to claim 1, wherein said transceiver comprises a controller for generating said modulation signal and for generating control signals, with a switch being coupled to said controller and said digital synthesizer driven phase locked loop for in response to a first control signal supplying said modulation signal from said controller to said digital synthesizer driven phase locked loop and in response to a second control signal supplying said non-modulation signal to said digital synthesizer driven phase locked loop.

4. (Canceled)

5. (Currently Amended) A transceiver for transmitting signals in a transmitting mode and for receiving signals in a receiving mode and comprising a single digital synthesizer driven phase locked loop, wherein said digital synthesizer driven phase locked loop, in said transmitting mode, is in a modulating state and receiving a modulation signal, with said digital synthesizer driven phase locked loop, in said receiving mode, being in an oscillating state;

wherein said single digital synthesizer driven phase locked loop comprises a first filter and a second filter, with a switch being coupled to said first filter and said second filter for in response to a first control signal selecting said first filter and in response to a second control signal selecting said second filter.

6. (Currently Amended) The transceiver according to claim 1, wherein said digital synthesizer driven phase locked loop, in said modulating state, generates a modulated signal, with said digital synthesizer driven phase locked loop, in said oscillating state, generating ~~said a~~ non-modulated signal.

7. (Previously Presented) The transceiver according to claim 6, wherein an output of said digital synthesizer driven phase locked loop is coupled via a first switch and a transmitter part and a second switch to an antenna for in response to a first control signal supplying said modulated signal to said antenna for transmitting said modulated signal, with said first switch further being coupled to a first input of a demodulator and with said second switch further being coupled to a first input of a demodulator and with said second switch further being coupled via a receiver part to a second input of said demodulator for in response to a second control signal supplying said non-modulated signal to said demodulator for demodulating a radio signal received via said antenna.

8.-20. (Canceled)

21. (New) A transceiver comprising:

a digital synthesizer;

a phase locked loop coupled to the digital synthesizer;

wherein when the transceiver is in a transmitting mode, the digital synthesizer receives a modulation signal, modulates a reference signal in response to the modulation signal, and transmits the modulated reference signal to the phase locked loop; and

wherein when the transceiver is in a receiving mode, the digital synthesizer receives a non-modulation signal, generates a non-modulated reference signal, and transmits the non-modulated reference signal to the phase locked loop.

22. (New) The transceiver in accordance with Claim 21 wherein the digital synthesizer and the phase locked loop form a digital synthesizer-driven phase locked loop, and the digital synthesizer driven phase locked loop is in a modulating state when the transceiver is in the transmitting mode and is in an oscillating state when the transceiver is in the receiving mode.

23. (New) The transceiver in accordance with Claim 21 wherein the phase locked loop performs a first filtering performance when the transceiver is in the transmitting mode and performs a second filtering performance different from the first filtering performance when the transceiver is in the receiving mode.

24. (New) The transceiver in accordance with Claim 21 wherein the phase locked loop performs a first filtering performance in response to a first control signal and performs a second filtering performance different from the first filtering performance in response to a second control signal.

25. (New) A transceiver comprising:

a digital synthesizer;

a phase locked loop;

a modulation signal generator which transmits a modulation signal to the digital synthesizer in response to a first control signal; and

a non-modulation signal generator which transmits a non-modulation signal to the digital synthesizer in response to a second control signal;

wherein in response to receiving the modulation signal, the digital synthesizer modulates a reference signal by the modulation signal and transmits the modulated reference signal to the phase locked loop; and

wherein in response to receiving the non-modulation signal, the digital synthesizer generates a non-modulated reference signal and transmits the non-modulated reference signal to the phase locked loop.

26. (New) The transceiver in accordance with Claim 27 wherein the first control signal is generated when the transceiver is in a transmitting mode and the second control signal is generated when the transceiver is in a receiving mode.

27. (New) The transceiver in accordance with Claim 26 wherein the digital synthesizer and the phase locked loop form a digital synthesizer-driven phase locked loop, and the digital synthesizer driven phase locked loop is in a modulating state when the transceiver is in the transmitting mode and is in an oscillating state when the transceiver is in the receiving mode.

28. (New) A phase locked loop for use in a transceiver, the phase locked loop comprising:

a phase detector for receiving a one of a modulated reference signal modulated by a modulation signal and a non-modulated reference signal;

a first filter for filtering the modulated reference signal; and

a second filter different from the first filter for filtering the non-modulated reference signal;

wherein the phase detector receives the modulated reference signal when the transceiver is in a transmitting mode and receives a non-modulated reference signal when the transceiver is in a receiving mode.

29. (New) A phase locked loop in accordance with Claim 27 wherein the phase locked loop performs the first filtering in response to a first control signal, and performs the second filtering in response to a second control signal.

30. (New) A digital synthesizer for use in a transceiver, the digital synthesizer comprising:

a phase accumulator for receiving a one of a modulation signal and a non-modulation signal;

wherein in response to receiving the modulation signal, the digital synthesizer modulates a reference signal by the modulation signal and transmits the modulated reference signal to a phase locked loop of the transceiver; and

wherein in response to receiving the non-modulation signal, the digital synthesizer generates a non-modulated reference signal and transmits the non-modulated reference signal to the phase locked loop.

31. (New) The digital synthesizer in accordance with Claim 30 wherein the digital synthesizer is in a modulating state when the transceiver is in a transmitting mode and the digital synthesizer is in an oscillating state when the transceiver is in a receiving mode.

32. (New) A unit comprising:

a transceiver comprising,

a digital synthesizer, and

a phase locked loop;

wherein when the transceiver is in a transmitting mode, the digital synthesizer receives a modulation signal, modulates a reference signal in response to the modulation signal, and transmits the modulated reference signal to the phase locked loop; and

wherein when the transceiver is in a receiving mode, the digital synthesizer receives a non-modulation signal, generates a non-modulated reference signal, and transmits the non-modulated reference signal to the phase locked loop.

33. (New) The unit in accordance with Claim 32 wherein the digital synthesizer and the phase locked loop form a digital synthesizer-driven phase locked loop, and the digital synthesizer-driven phase locked loop is in a modulating state when the transceiver is in the transmitting mode and is in an oscillating state when the transceiver is in the receiving mode.

34. (New) A method of transmitting signals, the method comprising:

transmitting a modulation signal to a digital synthesizer of a transceiver when the transceiver is in a transmitting mode;

transmitting a non-modulation signal to the digital synthesizer when the transceiver is in a receiving mode;

in response to receiving the modulation signal, modulating by the digital synthesizer a reference signal by the modulation signal and transmitting the modulated reference signal to a phase locked loop of the transceiver, and

in response to receiving the non-modulation signal, generating by the digital synthesizer a non-modulated reference signal and transmitting the non-modulated reference signal to the phase locked loop.